

John Wolsey COOK
Serial No. 10/573,079
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AMENDMENTS TO THE CLAIMS:

The following listing of claims supersedes all prior versions and listings of claims in this application:

LISTING OF CLAIMS:

1. (Currently Amended) A system for providing a telephony service between an exchange and a telephone said system comprising:

an exchange;

a telephone remote control unit connected to locally provide telephony control and voiceband signals to a telephone at a subscriber's premises;

an electrical transmission line network connecting said exchange and said telephone remote control unit;

[[a]] an intermediate network node inserted in said electrical transmission line, said node defining a first section of said electrical transmission line extending from said exchange to said node, and a second section of said electrical transmission line extending from said node to said telephone remote control unit, said exchange, in use, supplying telephony control signals and voiceband signals [[on to]] onto said first section of electrical transmission line;

a power supply at said remote control unit arranged in operation to supply electrical power [[on to]] onto said second section of electrical transmission line for use at said network node;

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a first control signal converter at said network node arranged in operation to convert telephony control signals supplied by said exchange into modified downstream control signals having a frequency that is different than the frequency of telephony, voiceband and control signals appearing on said first section of electrical transmission line, said modified downstream control signals being supplied onto said second section of electrical transmission line ~~said electrical power~~;

said node comprising electrical equipment arranged in operation to draw electrical power supplied by said power supply from said second section of electrical transmission line; and

a second control signal converter at said remote control unit connected to said telephone for converting said modified downstream control signals back into control signals of the type supplied by said exchange.

2-6. Cancelled

7. (Currently Amended) A system according to claim 1 [[3]], wherein said node further comprises a bypass transmission line connected to switch means for automatically bypassing said first signal converter in the event said power supply fails.

8. (Currently Amended) A system according to claim 7 [[3]], wherein said ~~subscriber~~ remote control unit further comprises a bypass transmission line connected

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to switch means for automatically bypassing said ~~further~~ second signal converter in the event said power supply fails.

9. (Currently Amended) A system according to claim 1, wherein said node further comprises a filter arranged in operation to allow said voiceband signals to pass across said node with minimal attenuation ~~[[but]]~~ while substantially attenuating ~~attenuate~~ all other signals.

10. (Currently Amended) A system according to claim 9 ~~[[1]]~~, wherein said remote control ~~subscriber~~ unit further comprises a filter arranged in operation to allow said voiceband signals to pass across said remote control ~~subscriber~~ unit with minimal attenuation ~~[[but]]~~ while substantially attenuating ~~attenuate~~ all other signals.

11. Cancelled

12. (Currently Amended) A node in a telecommunications network, said node interconnecting first and second sections of an electrical transmission line, said electrical transmission line connecting an exchange ~~[[in]]~~ at an opposite end of said first section to a telephone ~~[[in]]~~ subscriber unit at an opposite end of said second section, said exchange being ~~[[and]]~~ arranged in operation to ~~[[carry]]~~ supply telephony control

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signals and voiceband signals ~~supplied on to~~ onto said first section, said node comprising:

electrical equipment arranged in operation to draw electrical power supplied ~~[[on to]]~~ onto said second section from its opposite end by a subscriber unit;

a signal converter arranged in operation (a) to convert downstream telephony control signals supplied by said exchange onto said first section into modified downstream control signals onto said second section having a frequency that is different than the frequency of telephony, voiceband and control signals supplied by said exchange, ~~said electrical power~~ and (b) to convert similarly modified upstream control signals received from a subscriber unit via said second section into upstream telephony control signals having a frequency compatible with said exchange.

13. (Currently Amended) A subscriber unit in a telecommunications network having a transmission line divided into at least first and second sections by an intermediate node, said subscriber unit interconnecting a local telephone with said first and second section[s] of an electrical transmission line, said first section of the electrical transmission line connecting an exchange ~~in said first section~~ to said intermediate node ~~a telephone in said second section~~ and arranged in operation to carry telephony control signals and voiceband signals supplied ~~[[on to]]~~ onto said first section, said subscriber unit comprising:

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a power supply arranged in operation to supply electrical power ~~[[on to]]~~ onto said second section for use at said intermediate node; and

a control signal converter arranged in operation (a) to convert telephony control signals supplied by said telephone into modified upstream control signals having a frequency that is different than the frequency of voiceband and control signals appearing on said first section compatible with said exchange, ~~said electrical power~~ and (b) to convert similarly modified downstream control signals into telephony control signals having a frequency that is again compatible with said exchange.

14. (Currently Amended) A method of providing a telephony service between an exchange and a telephone, wherein said exchange and said telephone are connected by an electrical transmission line having a node inserted therein, said node defining a first section of said electrical transmission line extending from said exchange to said node, and a second section of said electrical transmission line extending from said node to said telephone, said method comprising:

(i) supplying telephony control signals of a first type and voiceband signals from said exchange ~~[[on to]]~~ onto said first section;

(ii) supplying electrical power ~~[[on to]]~~ onto said second section from a remote end thereof local to said telephone at a subscriber's premises;

(iii) converting telephony control signals of said first type supplied by said exchange into modified downstream control signals of a second type having a

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frequency that is different ~~[[to]]~~ than the frequency of telephony, voiceband and control signals appearing on said first section ~~said electrical power; and~~

(iv) operating electrical equipment in said node to draw electrical power from said second section as supplied to its remote end.

15. (New) A method for providing telephone service, said method comprising:
utilizing telephony control signals of a first type in a first section of a telephone transmission line located between a telephone exchange and a node in said telephone transmission line;

at said node, converting between said first type of telephony control signals and a second type of telephony control signals utilized on a second section of the transmission line located between the node and a subscriber unit located at a subscriber's premises, said first and second types of control signals utilizing different frequency bands outside of voiceband frequencies;

at said subscriber unit, converting between said second type of telephony control signals and said first type of telephony control signals which are for use by a subscriber telephone;

at said subscriber unit, supplying DC power onto said second section of transmission line; and

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at said node, powering electrical circuits with DC power supplied onto said second section of transmission line while blocking passage of said DC power onto said first section of transmission line.

16. (New) Apparatus for providing telephony service, said apparatus comprising:

means for utilizing telephone control signals of a first type in a first section of a telephone transmission line located between a telephone exchange and a node in said telephone transmission line;

means at said node, for converting between said first type of telephony control signals and a second type of telephony control signals utilized on a second section of the transmission line located between the node and a subscriber unit located at a subscriber's premises, said first and second types of control signals utilizing different frequency bands outside of voiceband frequencies;

means at said subscriber unit for converting between said second type of telephony control signals and said first type of telephony control signals which are for use by a subscriber telephone;

means at said subscriber unit, supplying DC power onto said second section of transmission line; and

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means at said node, powering electrical circuits with DC power supplied onto said second section of transmission line while blocking passage of said DC power onto said first section of transmission line.